Appln. No. 09/855,596
Amendment dated: March 4, 2004
Reply to Office Action of February 17, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (withdrawn): A control system for use in controlling at least one optical device in an optical network, the or each optical device being coupled to the control system through an analog based interface, the control system comprising:

a microprocessor based control layer, said control layer receiving instructions from a remote user station for controlling the or each optical device a digital layer coupled to said control layer, said digital layer receiving digital commands from said control layer for conversion and transmission to the or each analog based interface;

wherein the or each analog based interface is specifically constructed and designed to function with a specific optical device;

said control layer and said digital layer are each capable of functioning with any optical device;

the control layer executes a control program comprising:

a plurality of optical function modules each function module being specific to an optical function performed by an optical device;

an access module for receiving said instructions from said user station;

a digital layer for producing digital commands based on an input from at least one of said optical function modules;

a command module for receiving said instructions from said access module and for causing the execution of at least one of said function modules based on said instructions such that execution of a function module produces said digital commands from said digital layer.

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Claim 2 (withdrawn): A control system as in claim 1 wherein said control program further includes

a polling and storage module for sending a polling query to the or each optical device and for receiving a reporting response from the or each optical device in response to said polling query and for storing said response; and

a reporting module for reporting said response to said user station after a reporting request is received by said control system from said user station.

Claim 3 (withdrawn): A control system as in claim 2 wherein said polling and reporting module sends a periodic polling query to the or each optical device.

Claim 4 (withdrawn): An article of manufacture comprising:

computer readable media containing computer readable and executable code for use in controlling at least one optical device based on instructions received from a remote user station, said code having:

a plurality of optical function modules, each function module being specific to an optical function performed by an optical device;

an access module for receiving said instructions from said user station;

a digital layer for producing digital commands based on an input from at least one of said optical function modules;

a command module for receiving said instructions from said access module and for causing the execution of at least one of said function modules based on said instructions such that execution of a function module produces said digital commands from said digital layer.

Claim 5 (withdrawn): An article of manufacture as in claim 4 wherein said code

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includes:

a polling and storage module for sending a polling query to the or each optical device and for receiving a reporting response from the or each optical device in response to said polling query and for storing said response; and

a reporting module for reporting said response to said query after a reporting request is received by command module from said user station.

Claim 6 (withdrawn): A computer system for controlling at least one optical device, said system comprising:

a central processing unit (CPU)

a communications interface for transmitting and receiving messages to and from a user terminal, said communications interface being coupled to said central processing unit;

a memory storage means for storing computer readable and computer executable code, said memory storage means being coupled to said CPU;

a plurality of I/O (input/output) ports, each port being for interfacing with an optical device, each of said I/O ports being coupled to said CPU

wherein said computer readable and computer executable code having:

a plurality of optical function modules, each function module being specific to an optical function performed by an optical device;

an access module for transmitting and receiving said messages from said user station;

a digital layer for producing digital commands based on an input from at least one of said optical function modules;

a command module for receiving said messages from said access module and for causing the execution of at least one of said function modules based on said messages such that execution of a function module produces said digital commands

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from said digital layer.

Claim 7 (withdrawn): A computer system as claimed in claim 6 wherein said modules communicate within said computer system by means of datagrams, said datagrams having:

   a source address field;

   a source field denoting an address of a source optical device;

   a destination field denoting an address of a destination optical device;

   a system overhead field containing data;

   a command field containing an indication of at least one step to be executed regarding said data.

Claim 8 (withdrawn): A computer system as in claim 7 wherein said messages between said computer system and said user terminal use said datagrams.

Claim 9 (currently amended): A method of communicating between a user terminal and a control system controlling at least one optical device, the method comprising:

   a) creating a datagram at a source, said datagram having:

      a source address field;

      a source field denoting an address of a source optical device;

      a destination field denoting an address of a destination optical device;

      a system overhead field containing data; a

      command field containing an indication of at least one step to be

      executed regarding said data

   b) transmitting said datagram to a destination

   c) extracting said data at said source

   [[e)]] d) initiating said at least one step

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wherein said datagram is used internally by said control system to communicate

between different modules in said control system.

Claim 10 (original): A datagram for use in communicating between a user terminal and

a control system controlling at least one optical device, said datagram containing:

a source address field;

a source field denoting an address of a source optical device;

a destination field denoting an address of a destination optical device;

a system overhead field containing data;

a command field containing an indication of at least one step to be executed

regarding said data

wherein said datagram is used internally by said control system to communicate

between different modules in said control system.

Claim 11 (original): A communications signal transmitted between a user terminal and

a control system for controlling at least one optical device, said signal having encoded

thereon a datagram containing:

a source address field;

a source field denoting an address of a source optical device;

a destination field denoting an address of a destination optical device;

a system overhead field containing data;

a command field containing an indication of at least one step to be executed

regarding said data.

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